Exercise 1 Water freezes at 0° Celsius and 32° Fahrenheit and it boils at $100^{\circ}C$ and $212^{\circ}F$.

Write your answers as improper fractions if necessary.

- (a) A linear function F that expresses temperature in the Fahrenheit scale in terms of degrees Celsius (which we represent by the variable x) is F(x) = 6 (9/5)x + 32.
- (b) Using the above function, $20^{\circ} C$ is $\boxed{68}^{\circ}$ Fahrenheit.
- (c) A linear function C that expresses temperature in the Celsius scale in terms of degrees Fahrenheit (which we represent by the variable x) is $C(x) = \boxed{(5/9)x 160/9}$.
- (d) Using the above function, $110^{\circ}F$ is 130/3 $^{\circ}$ Celsius.
- (e) The temperature x at which F(x) = C(x) is -40°.